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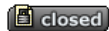
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12-13-2003, 02:44 AM

#1

wolfman

Super Member

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Join Date: Jun 2002

Location: Texas

Posts: 12,066

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S-Series Engine Removal with Automatic Transaxle Only

ENGINE REMOVAL Saturn "S" series 91'-02' AUTOMATIC TRANSAXLE EQUIPED CAR ONLY!

WARNING!!!! I AM NOT A TECHNICAL WRITER! THESE INSTRUCTIONS ARE AS CLEAR AND COMPLETE AS I CAN REMEMBER. I WILL NOT HOWEVER BE HELD RESPONSIBLE FOR ANY STEPS OR PROCEDURES THAT I MAY HAVE INADVERTANTLY LEFT OUT! EXCERSIZE EXTREME CARE AND CAUTION AS YOU PROCEED AND STOP IF IN DOUBT AND ASK FOR HELP BEFORE YOU DAMAGE OR BREAK ANYTHING!!!

CAUTION! This is NOT for the inexperienced or faint of heart. You WILL NEED a COMPLETE SET of METRIC WRENCHES AND SOCKETS, PRY BARS, A 3 JAW PULLER AND AN ENGINE HOIST WITH A SLIDER OR "SLANT BAR" MINIMUM to accomplish this!

1. REMOVE the HOOD. (MARK where the hinges are with a magic marker to make it easier to get back on straight FIRST) Disconnect and remove the battery, air snorkel and air cleaner assemblies from the car (disconnect wiring connector for the IAT sensor first)
2. From below, disconnect the battery cable and actuation wires to the starter and the wires connected to the alternator. (You can leave BOTH the starter and alternator ON the engine) MAKE SURE any wiring harnesses are disconnected from the keepers that attach them to the engine. Disconnect the wiring connections for the knock sensor, oil sending unit, CCPS and CPS.
3. Unbolt the intermediate shaft to engine block attaching bracket bolts from the block (DO NOT remove either drive axle or the intermediate shaft or drain the transaxle)
4. Unbolt the exhaust down pipe from the exhaust manifold flange
5. Drain the oil and coolant and REMOVE the upper and lower radiator hoses. Then remove the transaxle cooling lines from the radiator and REMOVE the radiator and fan assembly. (You DO NOT need to drain the transaxle)
6. Disconnect the fuel lines from the fuel rail (or throttle body in TBI cars) and position them out of the way. Disconnect the throttle cable and do the same. Disconnect the vacuum hose from the brake booster
7. Disconnect the wiring harness connector at the DIS module and position it out of the way. Disconnect and LABEL the wires for the IAC, TPS, ECTS, (and gauge sensor on 91'-95' cars) MAP, EGR valve (vacuum lines as well if a 91-94 car) Disconnect the wire(s) going to the fuel injector(s) and position them out of the way. Disconnect the battery ground wires from the two attaching points on the upper bell housing
8. Unbolt the power steering pump from the engine and disconnect the lines from the pump, remove the Power steering pump. (I find this easier than risking damage to the pump by just moving it out of the way) If the car has A/C, unbolt the compressor from it's bracket LEAVING THE HOSES ATTACHED AND ALONE and position it out of the way where the radiator used to be. Remove the heater hoses from their connections at the FIREWALL.
9. Remove the serpentine drive belt (already done when you took the PS pump off I hope) REMOVE the Crankshaft pulley, water pump pulley and idler pulley (gains you needed extra clearance)
10. Remove the inspection cover from the lower portion of the bell housing and remove the four torque converter to flexplate bolts by turning the engine over with a wrench on the reinstalled crankshaft pulley bolt to position the bolts where you can reach them. Use a screwdriver to pry the torque converter AWAY from the flexplate and as far INTO the bell housing as possible.
11. Remove the transaxle to engine block stiffener plate
12. Support the engine from ABOVE with your hoist and a chain hooked to the two lifting eyes on the engine
13. Remove the upper torque axis mount and mount to space frame bracket. (Remove "shock absorber type" front mount completely on a 91" SOHC) Remove the lower engine dog bone mount (or lower mount nut on a 91' SOHC)
14. Support the transaxle from BELOW using a floor jack and a block of wood as a cushion as close to the bell housing as possible. Then remove the two upper and two lower bell housing to engine block bolts
15. MAKE SURE there is now NOTHING connected to the engine (wires, hoses etc) EXCEPT the transaxle! Then MAKE SURE AGAIN FROM BOTH ABOVE AND BELOW THE ENGINE BAY!!! There should be uninterrupted EMPTY SPACE all around the engine on EVERY SIDE at this point EXCEPT where the engine and transaxle fit together. Any wires or hoses you see that I may have missed need to come off NOW.
16. Position your slider so that it will lift the PASSENGER SIDE of the engine at a SLIGHT ANGLE to the drivers side, then LIFT the engine SLIGHTLY while observing the bell housing to engine attaching point. When you see it start to separate, MAKE SURE the transaxle is still FIRMLY supported, and then use a pry bar to separate the transaxle from the engine by CAREFULLY prying the engine away from the transaxle until the guide pins clear the bell housing. When they do, the engine will probably "pop" up and away from them slightly..be ready for that! You want the torque converter to STAY on the transaxle. If they do not separate, lift the engine A LITTLE BIT more but if they still don't start to separate FIND OUT WHY AND MAKE SURE THAT THERE IS NOTHING LEFT HOLDING THEM TOGETHER!
17. Once you have gotten the bell housing separated all the way around from the engine, lift the engine some more and move it toward the PASSENGER SIDE of the engine bay as far as possible without binding up anything sticking out . (crankshaft end, water pump shaft or belt tensioner) until it is completely separate and clear of the transaxle

Razorbak's Photos  1996 SL2   	<i>Last edited by Razorbak; 09-06-2004 at 03:56 PM..</i> REWARD EXCELLENCE!  Rate the quality of this post and help <i>Razorbak</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
09-06-2004, 04:03 PM Razorbak Master Member  Join Date: Aug 2004 Location: Chicagoland Posts: 2,860 Razorbak's Photos  1996 SL2   	#5 PS - the torque converter is attached to the flywheel with bolts. REWARD EXCELLENCE!  Rate the quality of this post and help <i>Razorbak</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
09-06-2004, 04:11 PM tristanlee85 Member Join Date: Jan 2004 Posts: 97 tristanlee85's Photos    	#6 Thanks for the info. Still can't get it free from the transmission though. I can't figure out why. REWARD EXCELLENCE!  Rate the quality of this post and help <i>tristanlee85</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
09-06-2004, 04:31 PM Razorbak Master Member  Join Date: Aug 2004 Location: Chicagoland Posts: 2,860 Razorbak's Photos  1996 SL2   	#7 There are a couple of guide pins on the engine bellhousing. Two of the four transaxle-to-bellhousing bolts go through the middle of the guide pins. Have you gotten the transaxle and bellhousing separated enough to get past the guide pins? REWARD EXCELLENCE!  Rate the quality of this post and help <i>Razorbak</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
09-06-2004, 04:43 PM tristanlee85 Member Join Date: Jan 2004 Posts: 97 tristanlee85's Photos    	#8 yeh, there is a 1/2" gap between the pins. REWARD EXCELLENCE!  Rate the quality of this post and help <i>tristanlee85</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!
09-06-2004, 05:30 PM tristanlee85 Member Join Date: Jan 2004 Posts: 97 tristanlee85's Photos    	#9 I don't know what it's still connected to. Whenever I lift, it's still connected inside the transaxle somehow. It lifts the car with it. REWARD EXCELLENCE!  Rate the quality of this post and help <i>tristanlee85</i> reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

09-06-2004, 06:12 PM#10

tristanlee85

Member

Join Date: Jan 2004
Posts: 97

[tristanlee85's Photos](#)

Nevermind. I am so ignorant to everything posted here. I totally skipped the step about the 4 bolts that are connect from the driveplate to the torque converter. That's why I was pulling the transmission the whole time. Thanks for your help, and sorry for not searching before posting. I was just in need of a quick 1st person response. Thanks for the help though.

REWARD EXCELLENCE!

Rate the quality of this post and help *tristanlee85* reputation points. Click the reputation button near the bottom left corner of this message box. Thank you!

09-06-2004, 09:09 PM#11

Razorbak

Master Member

Join Date: Aug 2004
Location: Chicagoland
Posts: 2,860

[Razorbak's Photos](#)

1996 SL2

That's OK. Glad you got it out. 😊

REWARD EXCELLENCE!

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